

What is claimed is:

1. (original) A method for treating refractory material composed of fireclay, light-weight refractory bricks, silimanite bricks, zirconium and zirconium-containing bricks, and fusion-cast bricks with compositions of Al_2O_3 , SiO_2 , ZrO_2 and/or MgO or CrO , the surface of which is preferably in contact with a glass melt
wherein
the surface of the material is treated by laser radiation.
2. (original) The method as recited in Claim 1,
wherein
the surface of the refractory material is heated by the laser radiation to at least 2000°C .
3. (currently amended) The method as recited in Claim 1 ~~[[or 2]]~~,
wherein
an energy density of 2 to 4 W per mm^2 is introduced into the surface.
4. (currently amended) The method as recited in ~~one of the Claims 1 through 3~~ Claim 1,
wherein
the laser treatment is carried out with an effective exposure time of 0.1 to 5 s.
5. (currently amended) The method as recited in ~~one of the Claims 1 through 4~~ Claim 1,
wherein
the surface is treated using a laser beam with a feed rate of 1-10 mm/s, while the laser beam on the surface has a diameter of 2-5 mm.
6. (currently amended) The method as recited in ~~one of the Claims 1 through 5~~ Claim 1,
wherein

a laser beam with a wavelength in the range of 9 to 11 μm is used.

7. (currently amended) The method as recited in ~~one of the Claims 1 through 6~~ Claim 1,

wherein

a CO₂ laser is used.

8. (currently amended) The method as recited in ~~one of the Claims 1 through 7~~ Claim 1,

wherein

the surface is sprayed with a powder or a solution before or during the laser treatment, or the ceramic body is infiltrated with a solution that contains the zirconium-containing and/or aluminium-containing compounds.

9. (currently amended) The method as recited in ~~one of the Claims 1 through 8~~ Claim 1,

wherein

the refractory material is tempered after the laser treatment.

10. (original) Refractory material composed of fireclay, light-weight refractory bricks, silimanite bricks, zirconium and zirconium-containing bricks, and fusion-cast bricks with compositions of Al₂O₃, SiO₂, ZrO₂ and/or MgO or CrO, the surface of which is preferably in contact with a glass melt, characterized by a surface treated by laser radiation.

11. (original) The refractory material as recited in Claim 10,

wherein

the refractory material (1a) has a vitreous surface layer (1b).

12. (currently amended) The refractory material as recited in ~~one of the Claims 10 or 11~~ Claim 10,

wherein

the surface layer (1b) has a thickness of 100 to 1000 μm .

13. (currently amended) The refractory material as recited in ~~one of the Claims 10 through 12~~ Claim 10,
wherein
zirconium-containing and/or aluminum-containing compounds are located in the surface layer (1b).

14. (currently amended) The use of a refractory material as recited in ~~one of the Claims 10 through 13~~ Claim 10 for making furnaces, Danner blowpipes, for feeder channels and/or for drawing dies.

15. (original) An apparatus for manufacturing and/or processing glass melts that includes the components in contact with the glass melt, the components being composed of refractory material composed of fireclay, light-weight refractory bricks, silimanite bricks, zirconium and zirconium-containing bricks, and fusion-cast bricks with compositions of Al_2O_3 , SiO_2 , ZrO_2 and/or MgO or CrO ,
wherein
the refractory material includes a surface treated by laser radiation.

16. (original) The method for manufacturing and/or processing glass melts,
wherein
the glass melt is in contact with surfaces of refractory material composed of fireclay, light-weight refractory bricks, silimanite bricks, zirconium and zirconium-containing bricks, and fusion-cast bricks with compositions of Al_2O_3 , SiO_2 , ZrO_2 and/or MgO or CrO that have been treated by laser radiation.